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Art Unit: 2636 Examiner: Jennifer A. Mehmood  
Attorney Docket No.: AMG.4017.PAT

### REMARKS

Claims 1-40 are pending and claims 1-40 stand rejected. The Office action rejected claims 1-40 under 35 USC § 102(b) and § 103(a) based upon U.S. Pat. 4,348,655 (hereinafter "Goertler"); U.S. Pat. 5,673,019 (hereinafter "Dantoni"); and U.S. Pat. 4,638,295 (hereinafter "Middlebrook"). Claims 28-31 and 36-40 are cancelled and claims 41-48 are added. Applicant appreciates the discussions with Examiner that clarified the rejections and would appreciate an additional interview if any issues remain that might prevent the claims from issuance.

Applicant respectfully traverses the rejections in light of the following remarks or no longer apply in light of the amendments.

#### Claim rejections under 35 USC § 102

Claims 1, 2, 4-7, 14, 16, 17, 20, 22, and 24 stand rejected under 35 USC § 102(b) as being anticipated by Middlebrook and claims 11-13, and 18 stand rejected under 35 USC § 102(b) as being anticipated by Dantoni. Applicant respectfully suggests that the rejections are traversed in the following remarks.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single reference.<sup>1</sup> Furthermore, the identical invention must be shown in as complete detail as is contained in the claim.<sup>2</sup>

#### Middlebrook

With regards to independent claim 1, the Office action fails to establish a prima facie case of anticipation by Middlebrook because citations of Middlebrook provided as support for the rejections fail to describe, suggest or teach "each and every element as set forth in the claim[s]". In particular, claim 1 states:

A system to sense when a turn signal for a vehicle is active and the vehicle is turning and indicate that the vehicle is turning by varying a frequency and/or intensity with which the turn signal blinks, signaling to other motorists that the vehicle is turning, wherein the frequency and/or intensity with which the turn

<sup>1</sup> *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

<sup>2</sup> *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

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signal blinks varies in proportion to an amount of time during which the vehicle is turning.

As cited, Middlebrook describes two distinct groups of inputs for the processor. The first group is a "[s]witch sensor group 102 [that] includes a steering wheel position switch 52, a turn indicator switch 54, a back-up switch 56, a brake switch 58, and an accelerator at rest switch 60...." (Middlebrook at col. 4, lines 66-68 and col. 5, lines 1-2). The second sensor group is "[t]he engine and vehicle sensor group 104 [that] includes a speedometer cable pick off sensor 74, an engine rpm (ignition primary) sensor 78 and a diesel rpm (mechanical) sensor 82...." (Middlebrook at col. 5, lines 29-32). "The purpose of the switch sensors in group 102 is to indicate the intention of the vehicle to make a turn. The purpose of the engine and vehicle sensors in group 104 is to indicate the commitment of the vehicle to the turn anticipated by the switches in group 102...." (Middlebrook at col. 5, lines 37-42). Middlebrook describes multiple examples wherein the sensors of the switch sensor group detect the intention to turn based upon the steering wheel position switch, turn indicator switch, back-up switch, brake switch, and accelerator at rest switch. And, in those examples, one or more of the sensors in the engine and vehicle sensors group are used to determine whether the vehicle is committed to the turn. There is no indication in Middlebrook that the invention considers the amount of time during which the vehicle is turning as an input to determine whether to adjust the flash rate of the turn signal from 80 flashes per minute to 200 flashes per minute. Middlebrook does not describe, teach or suggest, expressly or inherently, "[a] system to... indicate that the vehicle is turning by varying a frequency and/or intensity ... in proportion to an amount of time during which the vehicle is turning." Thus, Applicant respectfully requests that the rejection of claim 1 be withdrawn and that claim 1 be allowed.

With regards to claims 2-5, Applicant submits that claims 2-5 incorporate the limitations of claim 1. So Applicant respectfully requests that the rejections of claims 2-5 be withdrawn and the claims be allowed.

With regards to amended claim 6, the Office action fails to establish a prima facie case of anticipation by Middlebrook because citations of Middlebrook provided as support for the rejections fail to describe, suggest or teach "each and every element as set forth in the claim[s]". In particular, amended claim 6 states:

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An apparatus to communicate a turn of a vehicle, the apparatus comprising:  
a sensor to detect positions of a shaft of the vehicle;  
a control circuit to generate an output signal, wherein the output signal varies in proportion to the positions of the shaft; and  
a turn signal lamp to produce a turn signal based upon the output signal, wherein the output signal varies a frequency and/or intensity with which the turn signal lamp blinks in proportion to the positions of the shaft.

As cited, Middlebrook describes two distinct groups of inputs for the processor. The first group is a "[s]witch sensor group 102 [that] includes a steering wheel position switch 52, a turn indicator switch 54, a back-up switch 56, a brake switch 58, and an accelerator at rest switch 60...." (Middlebrook at col. 4, lines 66-68 and col. 5, lines 1-2). The second sensor group is "[t]he engine and vehicle sensor group 104 [that] includes a speedometer cable pick off sensor 74, an engine rpm (ignition primary) sensor 78 and a diesel rpm (mechanical) sensor 82...." (Middlebrook at col. 5, lines 29-32). "The purpose of the switch sensors in group 102 is to indicate the intention of the vehicle to make a turn. The purpose of the engine and vehicle sensors in group 104 is to indicate the commitment of the vehicle to the turn anticipated by the switches in group 102...." (Middlebrook at col. 5, lines 37-42). Middlebrook describes multiple examples wherein the sensors of the switch sensor group detect the intention to turn based upon the steering wheel position switch, turn indicator switch, back-up switch, brake switch, and accelerator at rest switch. And, in those examples, one or more of the sensors in the engine and vehicle sensors group are used to determine whether the vehicle is committed to the turn. There is no indication in Middlebrook that the invention considers the amount of time during which the vehicle is turning as an input to determine whether to adjust the flash rate of the turn signal from 80 flashes per minute to 200 flashes per minute. While Middlebrook states that a hard turn can indicate an intention to turn without the input from a turn signal switch, Middlebrook still uses an engine and vehicle sensor to determine whether the vehicle is committed to the turn. Middlebrook does not describe, teach or suggest, expressly or inherently, "[a]n apparatus ... comprising ... a turn signal lamp to produce a turn signal based upon the output signal, wherein the output signal varies a frequency and/or intensity with which the turn signal lamp blinks in proportion to the positions of the shaft." Thus, Applicant respectfully requests that the rejection of claim 6 be withdrawn and that claim 6 be allowed.

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With regards to claims 7-10, Applicant submits that claims 7-10 incorporate the limitations of claim 6. So Applicant respectfully requests that the rejections of claims 7-10 be withdrawn and the claims be allowed.

For reasons similar to claim 6, the Office action fails to establish a prima facie case of anticipation by Middlebrook of amended claim 14 because Middlebrook does not describe, teach or suggest, expressly or inherently, "[a] vehicle comprising ... a turn signal lamp to produce a turn signal based upon the output signal, wherein the output signal varies a frequency and/or intensity with which the turn signal lamp blinks in proportion to the positions of the shaft." Thus, Applicant respectfully requests that the rejection of claim 14 be withdrawn and that claim 14 be allowed.

With regards to claim 15, Applicant submits that claim 15 incorporates the limitations of claim 14. So Applicant respectfully requests that the rejection of claim 15 be withdrawn and the claims be allowed.

For reasons similar to claim 6, the Office action fails to establish a prima facie case of anticipation by Middlebrook of amended claim 16 because citations of Middlebrook provided as support for the rejections fail to describe, teach or suggest, expressly or inherently, "[a] vehicle ... wherein the frequency and/or intensity with which the turn signal lamp blinks varies in proportion the amount of time." Thus, Applicant respectfully requests that the rejection of claim 16 be withdrawn and that claim 16 be allowed.

For reasons similar to claim 6, the Office action fails to establish a prima facie case of anticipation by Middlebrook of amended claim 20 because citations of Middlebrook provided as support for the rejections fail to describe, teach or suggest, expressly or inherently, "...a frequency that varies in proportion to positions of a shaft..." Thus, Applicant respectfully requests that the rejection of claim 20 be withdrawn and that claim 20 be allowed.

With regards to claims 21-24, Applicant submits that claims 21-24 incorporate the limitations of claim 20. So Applicant respectfully requests that the rejections of claim 21-24 be withdrawn and the claims be allowed.

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Dantoni

With regards to amended independent claim 11, the Office action fails to establish a prima facie case of anticipation by Dantoni because citations of Dantoni provided as support for the rejections fail to describe, suggest or teach "each and every element as set forth in the claim[s]". In particular, amended claim 11 states:

An apparatus to communicate a turn of a vehicle, the apparatus comprising:  
a sensor to detect an angle of a wheel of the vehicle;  
a control circuit to generate an output signal, wherein the output signal comprises a voltage that varies based upon the angle of the wheel; and  
a turn signal lamp to produce a turn signal based upon the voltage of the output signal, wherein the angle of the wheel varies the intensity with which the turn signal lamp blinks.

As cited and described, Dantoni describes turning on one to three lamps based upon the position of the shaft. Dantoni turns turn signal lamps either on or off. Unlike Dantoni, when utilizing a resistive type bulb as illustrated in Dantoni, claim 11 inherently requires variation of the amplitude of voltage across the turn signal lamp to vary the intensity with which the turn signal blinks. Thus, Applicant respectfully requests that the rejection of claim 11 be withdrawn and that claim 11 be allowed.

With regards to claims 12-13, Applicant submits that claims 12-13 incorporate the limitations of claim 11. So Applicant respectfully requests that the rejections of claims 12-13 under 35 USC § 102(b) be withdrawn and the claims be allowed.

For reasons similar to that of claim 11, the Office action fails to establish a prima facie case of anticipation by Dantoni for independent claim 18 because citations of Dantoni provided as support for the rejections fail to describe, suggest or teach "variation of the amplitude of voltage across the turn signal lamp to vary the intensity with which the turn signal blinks. Thus, Applicant respectfully requests that the rejection of claim 18 be withdrawn and that claim 18 be allowed.

With regards to claim 19, Applicant submits that claim 19 incorporates the limitations of claim 18. So Applicant respectfully requests that the rejection of claim 19 under 35 USC § 102(b) be withdrawn and the claim be allowed.

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**Claim rejections under 35 USC § 103(a)**

The Office action rejected claims 2-5, 8-10, 15-17, 19-31, and 33-40 under 35 USC § 103(a) as being unpatentable over Walton, Walton in view of Goertler, Walton in view of Dantoni, Dantoni, Dantoni in view of Middlebrooke, and Walton in view of Middlebrooke. Applicant believes that the rejections of the dependent claims 2-5, 7-10, 12-13, 15, 19, and 33-35 are traversed as discussed above and that the rejections of claims 16-17, 20-31, and 36-40 are traversed with the arguments above in conjunction with the arguments below.

To establish a prima facie case of obviousness, three basic criteria must be met.<sup>3</sup> First, there must be a suggestion or motivation to modify or combine the references.<sup>4</sup> Second, there must be a reasonable expectation of success in the modification or combination.<sup>5</sup> Finally, the modification or combination must teach or suggest all of Applicants' claim limitations.<sup>6</sup>

**Dantoni in view of Middlebrooke**

With regards to amended claim 25, the Office action fails to establish a prima facie case of obviousness by Dantoni in view of Middlebrooke because citations of Dantoni and Middlebrooke provided as support for the rejections fail to teach or suggest all of Applicants' claim limitations.<sup>7</sup> In particular, amended claim 25 states:

A method for communicating a turn of a vehicle, the method comprising:  
generating a output signal comprising a current that varies in proportion to angles of a wheel of the vehicle to communicate the turn; and  
applying the output signal to a turn signal lamp to vary a frequency with which the turn signal flashes in proportion to angles of the wheel of the vehicle while the vehicle is turning.

The Office action states:

...interpreted and rejected for the same reasons as stated in the rejection of claims 11 and 20 as stated above regarding angle of wheel (emphasis added).

<sup>3</sup> Manual of Patent Examining Procedure §2142.

<sup>4</sup> *In re Vaack*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

<sup>5</sup> *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375, 379 (Fed. Cir. 1986).

<sup>6</sup> *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

<sup>7</sup> *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

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As cited, Dantoni describes turning on one to three lamps based upon the position of the shaft. The turn signal lamps are either on or off. Middlebrooke's disclosure describes switching the frequency of the turn signal from 80 flashes per minute to 200 flashes per minute and vice versa in response to vehicle movement or engine acceleration. The combination of Dantoni and Middlebrook essentially changes the frequency from 80 to 200 flashes per minute in response to vehicle movement or engine acceleration and turns on up to three bulbs to indicate the position of the shaft. Neither patent describes, teaches, or suggests "generating a output signal comprising a current that varies in proportion to angles of a wheel of the vehicle to communicate the turn; and applying the output signal to a turn signal lamp to vary a frequency with which the turn signal flashes in proportion to angles of the wheel of the vehicle while the vehicle is turning." Therefore, the combination of Dantoni and Middlebrooke not only requires the use of impermissible hindsight<sup>8</sup> to attempt to reconstruct Applicants' invention, but the combination fails to achieve all of the elements of the claims. Applicant respectfully requests that the rejection of claim 25 be withdrawn and that claim 25 be allowed.

With regards to claims 26-27, Applicant submits that claims 26-27 incorporate the limitations of claim 25. So Applicant respectfully requests that the rejections of claims 26-27 under 35 USC § 103(a) be withdrawn and the claims be allowed.

With regards to independent claim 32, the Office action fails to establish a prima facie case of obviousness by Dantoni in view of Middlebrooke because citations of Dantoni and Middlebrooke provided as support for the rejections fail to teach or suggest all of Applicants' claim limitations.<sup>9</sup> In particular, claim 32 states:

A method for communicating a turn of a vehicle, the method comprising:  
determining an amount of time the vehicle has been moving while the wheels are turned;  
varying an output signal in proportion to the amount of time; and  
applying the output signal to a turn signal lamp to produce a turn signal, wherein an intensity with which the turn signal lamp blinks varies in proportion to the amount of time.

<sup>8</sup> *In re McLaughlin*, 443 F.2d 1392, 170 U.S.P.Q. 209, 212 (CCPA 1971)[Obviousness rejection cannot be based only on knowledge gleaned from Applicants' disclosure].

<sup>9</sup> *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

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As cited, Dantoni describes turning on one to three lamps based upon the position of the shaft. The turn signal lamps are either on or off. Middlebrooke's disclosure describes switching the frequency of the turn signal from 80 flashes per minute to 200 flashes per minute and vice versa. Neither patent describes, teaches, or suggests "an intensity with which the turn signal lamp blinks varies in proportion to the amount of time." Therefore, the combination of Dantoni and Middlebrooke not only requires the use of impermissible hindsight<sup>10</sup> to attempt to reconstruct Applicants' invention, but the combination fails to achieve all of the elements of the claims. Applicant respectfully requests that the rejection of claim 32 be withdrawn and that claim 32 be allowed.

With regards to claims 33-35, Applicant submits that claims 33-35 incorporate the limitations of claim 32. So Applicant respectfully requests that the rejections of claims 33-35 under 35 USC § 103(a) be withdrawn and the claims be allowed.

The new claims incorporate limitations to vary a current to vary the frequency with which the turn signal blinks and, thus, are not subject to the rejections discussed above.

With regards to other claims not mentioned above, Applicant submits that the claims incorporate the limitations of independent claims discussed above. So Applicant respectfully requests that the rejections of these other claims be withdrawn and the claims be allowed.

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<sup>10</sup> *In re McLaughlin*, 443 F.2d 1392, 170 U.S.P.Q. 209, 212 (CCPA 1971)[Obviousness rejection cannot be based only on knowledge gleaned from Applicants' disclosure.].



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### CONCLUSION

In the present response, Applicant has amended the claims and responded to the Office actions claim rejections under 35 USC §§ 102 and 103. Accordingly, Applicant believes that this response constitutes a complete response to each of the issues raised in the Office action. In light of the amendments made herein and the accompanying remarks, Applicant believes that the pending claims are in condition for allowance. Accordingly, Applicant requests that the rejections be withdrawn, pending claims be allowed, and application advance toward issuance. If the Examiner has any questions, comments, or suggestions, the undersigned attorney would welcome and encourage a telephone conference with Jeffrey Schubert at (512) 288-6635.

No other fees are believed to be due. The Commissioner is authorized to charge or credit any overpayments or underpayments to Deposit Account No. 50-3295.

Respectfully submitted,

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